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A unique tortricid moth *Cydia alazon* (Diakonoff, 1976), associated with the endemic pine (*Pinus canariensis*) in the Canary Islands, Spain (Lepidoptera: Tortricidae)

J. Jaroš & K. Spitzer

Abstract

The tortricid moth *Cydia alazon* (Diakonoff, 1976) was collected by light trapping in the pine zone of Tenerife Island in April – May 2003. At the same time larvae were discovered in cones of *Pinus canariensis*, from which adults emerged during May. The food plant of *C. alazon* was unknown until now. The moth is widely distributed and locally common in the pine zone of Tenerife, and *P. canariensis* appears to be the only food plant. Only several old records of adults were known from Gran Canaria and Tenerife, none with ecological data.

KEY WORDS: Lepidoptera, Tortricidae, *Cydia alazon*, food plant, *Pinus canariensis*, Canary Islands, Spain.

Un único tortricido *Cydia alazon* (Diakonoff, 1976), asociado con el pino endémico (*Pinus canariensis*) en las Islas Canarias, España (Lepidoptera: Tortricidae)

Resumen

El tortricido *Cydia alazon* (Diakonoff, 1976) fue capturado con trampa de luz en una zona de pinares en la isla de Tenerife en abril - mayo de 2003. A la misma vez, fueron descubiertas las larvas en las piñas de *Pinus canariensis*, de los que emergieron los adultos durante el mes de mayo. La planta nutricia de *C. alazon* era hasta ahora desconocida. Esta polilla está extensamente distribuida y es localmente común en zonas de pinares en Tenerife y parece ser que su única planta nutricia es el *Pinus canariensis*. Sólo algunas antiguas citas se conocían de las islas de Gran Canaria y Tenerife, sin datos ecológicos.

PALABRAS CLAVE: Lepidoptera, Tortricidae, *Cydia alazon*, planta nutricia, *Pinus canariensis*, Islas Canarias, España.

Introduction

A number of species of the genus *Cydia* Hübner, 1825, are associated with cones of various pines. The most diverse associations are recorded from North America (HEINRICH, 1926; MILLER, 1959, 1966, 1986, 1990). Only one species, *Cydia conicolana* (Heylaerts, 1874), is known from the Palaearctic region (e.g. RAZOWSKI, 2003). In 1976 A. Diakonoff described as new the species *Cydia alazon* from the Canary Islands (Gran Canaria), and supposed that this unusual species is nearest to *C. astragalana* (Staudinger, 1871). No ecological data of *C. alazon* were recorded (DIAKONOFF, 1976), but KLIMESCH (1987), who discovered this species in Tenerife, noted that the type material of Diakonoff was collected by light trapping as well. The food plant remained unknown.

Results and discussion

In late April and early May 2003 we collected 15 males and one female of *Cydia alazon* (figs. 1, 2) by UV light trapping in localities near Vilaflor (Tenerife), at 1100 m alt., which is situated in the lower belt of the pine zone. Diurnal activity was also observed (three males). At the same time, we also collected a number of cones containing larvae and pupae of suspected tortricids. During early May 2003 eight males and one female of *C. alazon* emerged from three cones leaving exuviae in characteristic exit holes of diameter 1.8-2.0 mm (fig. 3). These cones were collected in the upper belt of *Pinus canariensis* situated in a volcanic lava field of Teide at 1700 m alt. near "Montaña de las Cuevitas" (fig. 4). During October 2004 fallen cones with characteristic emergence holes were collected in various parts of the highland pine zone of Teide, but no adults were collected in autumn. Other species of Lepidoptera associated with *Pinus canariensis* are *Rhyacionia walsinghami* (Rebel, 1896), *Dioryctria nivaliensis* (Rebel, 1892) and *Calliteara fortunata* (Rogenhofer, 1891), all collected near Vilaflor. *C. alazon* was the only species of Lepidoptera associated with the infested cones we collected.

In this paper, the food plant of the endemic Canarian moth *C. alazon* is recorded for the first time. It is an interesting island coevolution of an endemic food plant and an endemic moth, which seems to be very ancient with respect to the geological history of the Canary Islands and the evolution of *Pinus canariensis* (KUNKEL, 1976; BRAMWELL & BRAMWELL, 2001). *C. alazon* is unusual in that it is taxonomically isolated and not closely related to any other *Cydia* species feeding in cones of *Pinus*. The easy diagnosis of *C. alazon* was noted by DIAKONOFF (1976) in his original description and confirmed by the illustrations in Figs 1, 2 of this paper. The diverse North American *Cydia* species associated with pine cones are quite different (HEINRICH, 1926; MILLER, 1959, 1966, 1986). Even in the Palaearctic and Oriental regions it is not possible to find a species of *Cydia* closely related to *C. alazon* (see e.g. CLARKE, 1958; DANILEVSKY & KUZNETZOV, 1968; MILLER, 1990; RAZOWSKI, 2001, 2003). We conclude that the island coevolution of *Pinus canariensis* and *Cydia alazon* is not only ancient, but that it probably dates from the Tertiary period (cf. e.g. KUNKEL, 1976; JUAN *et al.*, 2000).

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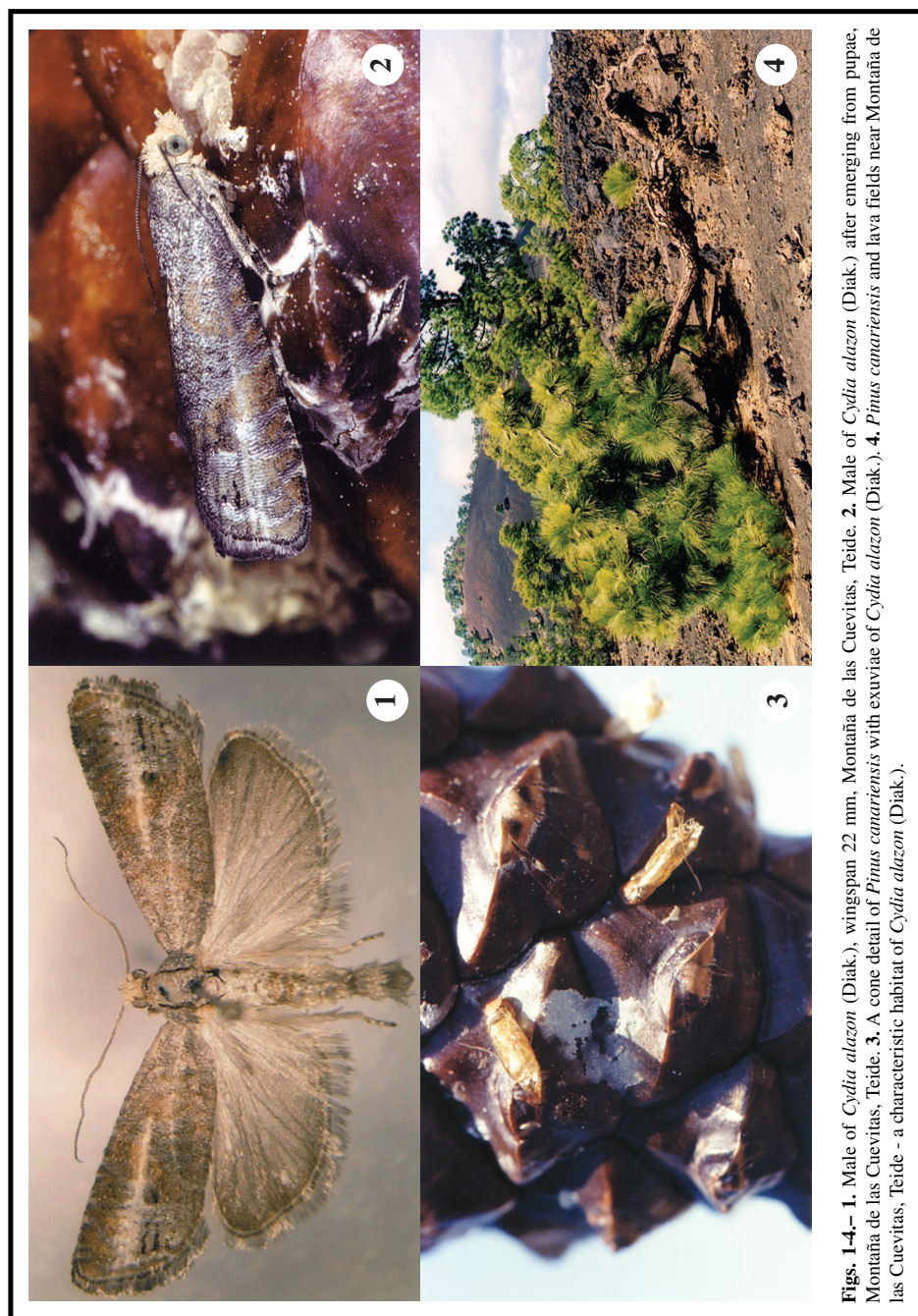
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Figs. 1-4. 1. Male of *Cydia alazon* (Diak.), wingspan 22 mm, Montaña de las Cuevitas, Teide. 2. Male of *Cydia alazon* (Diak.) after emerging from pupae, Montaña de las Cuevitas, Teide. 3. A cone detail of *Pinus canariensis* with exuviae of *Cydia alazon* (Diak.). 4. *Pinus canariensis* and lava fields near Montaña de las Cuevitas, Teide - a characteristic habitat of *Cydia alazon* (Diak.).